

We Claim:

1. A method of making a lofty nonwoven fabric laminate, comprising:

serially depositing a plurality of nonwoven web layers on a single transfer belt with each web layer being heat treated before addition of a next succeeding web layer.

2. A method of making a lofty nonwoven fabric laminate, comprising:

creating a first nonwoven layer having sufficient integrity to withstand high speed web transfer rates;

creating a lofty second layer having crimped homofilament fibers;

traversing the second layer through a flow of heated air at a temperature, flow rate, and traversal rate sufficient to heat set the crimps of the fibers without substantial melt bonding or relaxation of the fibers; and

bonding the heat set second layer and the first nonwoven layer to have sufficient structural integrity to withstand high speed web transfer rates.

3. The method of making a lofty nonwoven fabric laminate according to Claim 2, wherein the structural integrity includes dimensional integrity in the longitudinal and transverse axes.

4. The method of making a lofty nonwoven fabric laminate according to Claim 2, wherein the first nonwoven layer is traversed through the flow of heated air.

5. The method of making a lofty nonwoven fabric laminate according to Claim 2, wherein the high speed web transfer rate is above 200 feet per minute.

6. The method of making a lofty nonwoven fabric laminate according to Claim 2, wherein the high speed web transfer rates are in the range of 200 to 2000 feet per minute.

7. A method of making a lofty nonwoven fabric laminate in a single, in-line process, comprising steps in the order of:

- a) depositing a first layer of filaments onto a wire;
- b) bonding the first layer to an integrity sufficient to withstand high speed web transfer;
- c) depositing a second layer of crimped homofilament fibers connected to the first layer while the first layer remains on the wire;
- d) traversing the second layer of crimped homofilament fibers through a flow of heated air at a temperature, flow rate, and traversal rate sufficient to set the crimps of the fibers without substantial melt bonding or relaxation of the fibers; and

e) bonding the heat set second layer and the first nonwoven layer in a manner having sufficient integrity to withstand high speed web transfer.

8. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the second layer of fibers is uncompacted.

9. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the first layer filaments comprise spunbond fibers.

10. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, where the first layer fibers are comprised of polypropylene polymer.

11. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the first layer is bonded with a hot air knife.

12. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the second layer crimped fibers comprise homofilament crimped fibers.

13. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the second layer crimped fibers comprise helically crimped fibers.

14. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the second layer crimped fibers comprise homofilament helically crimped fibers.

15. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, where the second layer fibers comprise polypropylene polymer.

16. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the flow of heated air to the second layer is provided by a diffuse hot air knife.

17. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the temperature is about 260 °F to about 310 °F .

18. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the flow rate is between about 700 feet per minute to about 850 feet per minute.

19. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the traversal rate is between about 300 feet per minute to about 800 feet per minute .

20. The method of making a lofty nonwoven fabric laminate in a single, in-line process according to Claim 7, wherein the second layer and first layer are bonded by a thermal point bond process.

21. A lofty nonwoven fabric laminate, comprising:

a first nonwoven layer having sufficient integrity to withstand high speed web transfer;

a lofty, second nonwoven layer having stable, uncompacted crimped homofilament fibers; and

the second nonwoven layer and the first nonwoven layer bonded with sufficient integrity to withstand high speed web transfer.

*how lofty is lofty?
112*

22. The lofty nonwoven fabric laminate of Claim 21, wherein the first layer filaments comprise spunbond fibers.

23. The lofty nonwoven fabric laminate of Claim 21, wherein the first layer fibers are comprised of polypropylene polymer.

24. The lofty nonwoven fabric laminate of Claim 21, wherein the first layer is heat fused.

25. The lofty nonwoven fabric laminate of Claim 21, wherein the second layer crimped fibers comprise spunbond fibers.

26. The lofty nonwoven fabric laminate of Claim 21, wherein the second layer crimped fibers comprise homofilament crimped fibers.

27. The lofty nonwoven fabric laminate of Claim 21, wherein the second layer crimped fibers comprise helically crimped fibers.

28. The lofty nonwoven fabric laminate of Claim 21, wherein the second layer crimped fibers comprise homofilament helically crimped fibers.

29. The lofty nonwoven fabric laminate of Claim 21, where the second layer fibers are comprised of polypropylene polymer.

30. The lofty nonwoven fabric laminate of Claim 21, wherein the second layer crimped fibers are heat set.

31. The lofty nonwoven fabric laminate of Claim 21, wherein the second layer and first layer are bonded by a thermal point bond process.

32. The lofty nonwoven fabric laminate of Claim 21, further comprising: an intermediate nonwoven layer between the first layer and the second layer.

33. The lofty nonwoven fabric laminate of Claim 32, wherein the intermediate nonwoven layer is spunbond.

34. The lofty nonwoven fabric laminate of Claim 32, wherein the intermediate nonwoven layer is heat treated.

35. The lofty nonwoven fabric laminate of Claim 32, wherein the intermediate nonwoven layer is meltblown.

36. The lofty nonwoven fabric laminate of Claim 32, wherein the intermediate nonwoven layer is not heat treated.

37. The lofty nonwoven fabric laminate of Claim 32, wherein the first and second nonwoven layers are point bonded.

38. The lofty nonwoven fabric laminate of Claim 21, wherein the first and second nonwoven layers are adhesive bonded.

10010020 120004